

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method of driving a brushless DC motor comprising:

rectifying an AC voltage by a rectifier circuit configured with a diode bridge circuit, a capacitor being coupled between output terminals of the rectifier circuit and the AC voltage of an AC power source being input to the rectifier circuit;

driving the brushless DC motor by an inverter coupled to the rectifier circuit;

detecting a rotor position of the brushless DC motor by a position detector based on one of a back electromotive force of the brushless DC motor and a motor current;

estimating the rotor position by a position estimator when a voltage between terminals of the capacitor is lower than a predetermined voltage, wherein the rotor position is not detectable by the position detector; and

controlling the inverter by a controller based on one of the rotor position detected by the position detector and the rotor position estimated by the position estimator;

wherein the capacitor has a capacitance that a ripple content in an output voltage of the rectifier circuit becomes not less than 90% in an output range for practical use in driving the brushless DC motor.

2. (Cancelled)

3. (Currently Amended) The method of driving the brushless DC motor as defined in Claim 1, wherein the position estimator specifies a predetermined time ~~is specified~~ based on a detection time when the rotor position is detectable by the position detector, and estimates the rotor position ~~is estimated~~ on a precondition that

the position shifts after the predetermined time when the voltage between the terminals of the capacitor is lower than the predetermined voltage, ~~rotor position is not detectable by the position detector.~~

4. (Cancelled)

5. (Currently Amended) A brushless DC motor driver comprising:

a rectifier circuit for rectifying an AC voltage input from an AC power source, the rectifier circuit being configured with a diode bridge circuit;

a capacitor coupled between output terminals of the rectifier circuit;

an inverter coupled to the rectifier circuit;

a position detector for detecting a rotor position of the ~~brushes~~ brushless DC motor based on one of a back electromotive force of the brushless DC motor driven by the inverter and a motor current;

a position estimator for estimating the rotor position when a voltage between terminals of the capacitor is lower than a predetermined voltage wherein it is not detectable by the position detector; and

a controller for operating the inverter by switching between an output signal from the position detector and an output signal from the position estimator;

wherein the capacitor has a capacitance that a ripple content in an output voltage of the rectifier circuit becomes not less than 90% in an output range for practical use in driving the brushless DC motor.

6. (Original) The brushless DC motor driver as defined in Claim 5, wherein the inverter is configured with six switching elements in a three-phase bridge connection.

7. (Cancelled)

8. (Currently Amended) The brushless DC motor driver as defined in Claim 5, wherein the position estimator has a timer, the position estimator specifying

a predetermined time based on a detection time when the rotor position is detectable by the position detector, and determining an estimated rotor position using the timer when the voltage between the terminals of the capacitor is lower than the predetermined voltage. ~~rotor position is not detectable by the position detector.~~

9. (Cancelled)

10. (Original) The brushless DC motor driver as defined in Claim 5, wherein the brushless DC motor drives a compressor in a refrigerating and air conditioning system.

11. (Original) The brushless DC motor driver as defined in Claim 5, wherein the brushless DC motor drives an air blower for feeding air.